What is claimed is:

1. An interference reduction method comprising the steps of:

a first generating step for generating a first scrambling code sequence;

a second generating step for generating a second scrambling code sequence based on a modification of the first scrambling code sequence;

a first forming step for forming a first code tree associated with the first scrambling code sequence;

a second forming step for forming a second code tree associated with the second scrambling code sequence;

a first spreading step for spreading a first signal using a first portion of the first code tree; and

a second spreading step for spreading a second signal using a second portion of the second code tree, the second portion of the second code tree being orthogonal to the first portion of the first code tree.

2. The method according to claim 1, wherein the first forming step comprises combining a channelization code sequence and the first scrambling code sequence to form a first code tree; and the second forming step comprises combining the channelization code sequence and the second scrambling code sequence to from a second code tree.

3. The method according to claim 1, wherein the first signal is a control channel signal.

4. The method according to claim 1, wherein the second signal is a dedicated physical channel signal.

5. The method according to claim 1, wherein the first portion of the first code tree comprises codes formed by the first scrambling code sequence and a likewise bit pair codes of the channelization code sequence, and the second portion of the second code tree comprises codes formed by the second scrambling code sequence and an unlike-wise bit pair codes of the channelization code.

6. The method according to claim 1, wherein the second generating step comprises combining the first scrambling code sequence and a pseudo-random sequence to generate a second scrambling code sequence.

7. A method for generating a scrambling code sequence comprising:

receiving a first scrambling code sequence;

generating a pseudo-random sequence;

combining the first scrambling code sequence and the pseudo-random sequence generated to form a second scrambling code sequence.

8. The method according to claim 7, wherein the generating step comprises generating a pseudo-random binary sequence.

9. The method according to claim 8, wherein the pseudo-random binary sequence is a "+1" and "-1" sequence.

10. The method according to claim 7, wherein the generated pseudo-random sequence is half the rate of the first scrambling code sequence.

11. A scrambling code sequence generator comprising:

means for receiving a first scrambling code sequence;

means for generating a pseudo-random sequence;

means for combining the first scrambling code sequence and the pseudo-random sequence generated.

12. The scrambling code sequence generator according to claim 11, wherein the means for generating is capable of generating a pseudo-random binary sequence.

13. The scrambling code sequence generator according to claim 11, wherein the means for generating is capable of generating the pseudo-random sequence having half the rate of the first scrambling code sequence.

14. A system for spreading a plurality of physical channels comprising:

an input for receiving the plurality of physical channels that need to be spread;

a first code of a first code tree for spreading at least a portion of the plurality of physical channels, wherein the first code spreads only one of the plurality of physical channels, and the first code of the first code tree comprising a combination of a channelization code and a first scrambling code; and

a second code of a second code tree for spreading a remainder of the plurality of physical channels, wherein the second code spreads only one of the plurality of remainder channels, and the second code of the second code tree comprising a combination of the channelization code and a second scrambling code.

15. The system according to claim 14, wherein the plurality of physical channels comprises a plurality of downlink physical channels.

16. The system according to claim 14, wherein the second scrambling code is generated by modifying the first scrambling code.

17. A method for forming a set of sequences for reducing interference, the method comprising the steps of:

generating a first subset of the set of sequences, the first subset comprising a first portion being occupied and a second portion being occupied, wherein the sequences within the first portion of the first subset are pair-wise orthogonal to one another, and the sequences within the second portion of the first subset are pair-wise orthogonal to one another and orthogonal to the sequences within the first portion of the first subset; and

generating at least one other subset of the set of sequences based on a modification of the sequences within the second portion of the first subset, the at least one other subset comprising a first portion being unoccupied and a second portion being occupied, wherein the sequences within the respective second portion of the at least one other subset are respectively pair-wise orthogonal to one another

and are orthogonal to the sequences within the first portion of the first subset, whereby, interference between the sequences of the first subset and the sequences of the at least one other subset is reduced.

18. The method according to claim 17, wherein said step generating at least one other subset of the set of sequences is indicative of generating a plurality of other subsets of the set of sequences comprising a first portion being unoccupied and a second portion being occupied.

19. The method according to claim 17, wherein the modification of the sequences within the second portion of the first subset of the set of sequences includes combining the sequences within the second portion of the first subset with a pseudo-random sequence to generate the at least one other subset.

20. The method according to claim 17, wherein the respective second portion of the at least one other subset is not a part of the first subset of the set of sequences.

21. The method according to claim 17, wherein the first portion of the first subset is used for data sequences having large gain factors.

22. The method according to claim 17, wherein the sequences within the second portion of the first subset and the sequences within the respective second portion of the at least one other subset are transmitted through different antennas.

23. The method according to claim 22, wherein the sequences within the first portion of the first subset are transmitted distributively on the different antennas, the sequences of the first portion of the first subset being control channels.

24. The method according to claim 17, wherein an antenna transmits the sequences within the second portion of the first subset, the sequences being orthogonal to each other.

25. The method according to claim 17, wherein an antenna transmits the sequences within the respective second portion of the at least one other subset, the sequences being orthogonal to each other.

26. The method according to claim 17, wherein the sequences within the second portion of the first subset and the sequences within the respective second portion of the at least one other subset are not orthogonal.

27. The method according to claim 17, wherein the first portion of the first subset is used for continuously transmitted signals, and the second portion of the first subset and the second portion of the at least one other subset are used for bursty signals.

28. A method for spreading a plurality of physical channels comprising the steps of:

receiving the plurality of physical channels that need to be spread;

spreading at least a portion of the plurality of physical channels using a first code of a first code tree, the first code tree comprising a primary set of sequences and a secondary set of sequences, wherein the first code spreads only one of the plurality of physical channels, and the first code of the first code tree comprising a combination of a channelization code and a first scrambling code;

spreading a remainder of the plurality of physical channels using a second code of a second code tree, the second code tree comprising a resultant set of sequences, wherein the second code spreads only one of the plurality of remainder channels, and the second code of the second code tree comprising a combination of the channelization code and a second scrambling code; and

outputting a set of sequences, the set of sequences comprising at least one of the following:

the primary set of sequences of the first code tree;

the secondary set of sequences of the first code tree; and

the resultant set of sequences of the second code tree.

29. The method according to claim 28, wherein the second scrambling code is generated by modifying the first scrambling code.

30. The system according to claim 28, wherein the plurality of physical channels are input sequences and the set of output sequences have a common rate, whereby the common rate is smaller than the sum of the rates of the input sequences.

31. A method for forming a set of sequences for reducing interference, the method comprising the steps of:

generating the set of sequences; and

partitioning the set of sequences into subsets, the sequences within the respective subsets being respectively pair-wise orthogonal to one another, at least one of the subsets containing a primary set of sequences that are mutually orthogonal to the other sequences in the other subsets, whereby, interference between the sequences of the at least one of the subsets and the other sequences of the other subsets is reduced.

32. A sequence generating apparatus for forming a set of sequences, the sequence generating apparatus comprising:

a generator for generating the set of sequences; and

a partitioner for partitioning the set of sequences into subsets, the sequences within the respective subsets being respectively pair-wise orthogonal to one another, at least one of the subsets containing a primary set of sequences and a secondary set of sequences, wherein the

primary set of sequences are mutually orthogonal to the other sequences of the other subsets, whereby, interference between the sequences of the at least one of the subsets and the other sequences of the other subsets is reduced.

33. The sequence generating apparatus according to claim 32, wherein the other sequences of the other subsets is not a part of the sequences of the at least one of the subsets of the set of sequences.

34. The sequence generating apparatus according to claim 32, further comprising:

a modifier for modifying the secondary set of sequences of the at least one of the subsets, the modifier combining the secondary set of sequences of the at least one of the subsets with a pseudo-random sequence forming the other subsets.

35. The sequence generating apparatus according to claim 32, wherein the other sequences of the other subsets contain only a secondary set of sequences.

36. The sequence generating apparatus according to claim 32, wherein the primary set of sequences of the at least one of the subsets is used for data sequences having large gain factors.

37. The sequence generating apparatus according to claim 32, wherein the secondary set of sequences of the at least one of the subsets and the other sequences of the other subsets are transmitted through different antennas.

38. The sequence generating apparatus according to claim 32, further comprising:

an antenna for transmitting the secondary set of sequences of the at least one of the subsets, the secondary set of sequences of the at least one of the subsets being pair-wise orthogonal to one another.

39. The sequence generating apparatus according to claim 32, further comprising:

at least one other antenna for transmitting a single one of the other sequences of the other subsets, the single one of the other sequences of the other subsets being pair-wise orthogonal to one another.

40. The sequence generating apparatus according to claim 32, wherein the primary set of sequences of the at least one of the subsets is used for continuously transmitted signals, and the secondary set of sequences of the at least one of the subsets and the other sequences of the other subsets are used for bursty signals.

41. A system utilizing a set of sequences for reducing interference therein, the system comprising:

means for sending signals formed from sequences of a first subset of the set of sequences, the first subset comprising a first portion being occupied and a second portion being occupied, wherein the sequences within the first portion of the first subset are pair-wise orthogonal to one another, and the sequences within the second portion of the first subset are pair-wise orthogonal to one another and orthogonal to the first portion of the first subset; and

means for sending signals formed from sequences of at least one other subset of the set of sequences based on a modification of the sequences within the second portion of the first subset, the at least one other subset comprising a first portion being unoccupied and a second portion being occupied, wherein the sequences within the respective second portion of the at least one other subset are pair-wise orthogonal to one another, and orthogonal to the sequences within the first portion of the first subset, whereby, interference between the signals using the

sequences of the first subset and the signals using the sequences of the at least one other subset is reduced.

42. The method according to claim 41, wherein the modification of the sequences within the second portion of the first subset of the set of sequences includes combining the sequences within the second portion of the first subset with a pseudo-random sequence to generate the at least one other subset.

43. The system according to claim 41, wherein the system is selected from the group consisting of: a communication system and a wireless communication system.

44. The system according to claim 41, wherein the signals formed from the first portion of the first subset comprises control signals.

45. The system according to claim 41, wherein the signals formed from the second portion of the first subset and the second portion of the at least one other subset comprises physical dedicated channel.